December 9, 2016

Mr. Michael Yox
Regulatory Affairs Director
Southern Nuclear Operating Company
7835 River Road, Bldg. 140, Vogtle 3&4
Waynesboro, GA 30830

Mr. Ronald A. Jones, Vice President
New Nuclear Operations
South Carolina Electric & Gas Company
14368 State Highway 213
Jenkinsville, SC 29065

SUBJECT: SUMMARY OF NUCLEAR REGULATORY COMMISSION VENDOR INSPECTIONS AFFECTING INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

Dear Mr. Yox and Mr. Jones:

Attached is a summary of all vendor inspections performed since our last letter dated October 8, 2015, as they relate to ITAAC for Vogtle Units 3 and 4 and Summer Units 2 and 3.

As discussed at the February 7, 2013, public meeting, the U.S. Nuclear Regulatory Commission (NRC) staff is informing holders of a combined license that incorporates by reference Appendix D of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Design Certification Rule for the AP1000 Design," of recent vendor issues that, if left uncorrected, are material to inspections, tests, analyses, and acceptance criteria (ITAAC). Each of the inspection findings in the attachment apply to all four of the new Vogtle and Summer units.

The NRC's Vendor Inspection Program verifies effective licensee oversight of the supply chain through inspections of a sample of vendors. Licensees are ultimately responsible for vendor oversight and vendor performance. It is the agency's expectation that licensees consider NRC vendor inspection findings as potential weaknesses in their procurement programs.

Consistent with the guidance in the NRC-endorsed Nuclear Energy Institution (NEI) 08-01, Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52, licensees should discuss the resolution of ITAAC findings (including potential ITAAC-related issues identified through vendor inspections) in their ITAAC closure notifications in accordance with 10 CFR 52.99(c)(1), "ITAAC closure notification." Section 52.99(c)(1) states, "The licensee shall notify the NRC that prescribed inspections, tests, and analyses have been performed and that the prescribed acceptance criteria are met. The notification must contain sufficient information to demonstrate that the prescribed inspections, tests, and analyses have been performed and that the prescribed acceptance criteria are met."

Although the NRC is currently planning to review the resolution of these items through future inspections, you should not delay your ITAAC review and closure activities based on NRC inspection schedules.

Please contact the respective inspection team leader listed in the attachment, if you have any questions or need assistance regarding these matters.

Sincerely,

/RA/

Terry W. Jackson, Chief
Quality Assurance Vendor Inspection Branch-1
Division of Construction Inspection
and Operational Programs
Office of New Reactors

Docket Nos.: 05200025
05200026
05200027
05200028

Enclosure:
Summary of NRC Vendor Inspections
Affecting ITAAC

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Enclosure:
Summary of NRC Vendor Inspections
Affecting ITAAC

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ADAMS Accession No.: ML16280A303 *via e-mail NRO-002

OFC	NRO/DCIP/QVIB-1	NRO/DNRL/LB4	NRO/DCIP/QVIB-1	NRO/DCIP/HOIB	NRO/DCIP/CIPB
NAME	JJimenez	BGleaves*	JJacobson*	PPieringer*	VHall* (RJenkins for)
DATE	10/06/16	10/07/16	10/13/16	10/07/16	12/05/16
OFC	RII/DCP/CPB2	NRO/DCIP/QVIB-1	OGC*	NRO/DCIP/QVIB-1	
NAME	RNease*	GGalletti*	AWilson	TJackson	
DATE	10/06/16	10/11/16	12/02/16	12/09/16	

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Summary of Nuclear Regulatory Commission Vendor Inspections Affecting Inspections, Tests, Analyses, and Acceptance Criteria

1. Westinghouse

   a. Inspection Scope

   On May 19 and 20, 2016, the U.S. Nuclear Regulatory Commission (NRC) staff conducted an inspection at the Westinghouse Electric Company (WEC) facility in Cranberry Township, PA. The purpose of the inspection was to review the corrective actions taken by WEC in response to two issues (Nonconformance 99900404/2011-201-02 and Open Item 99900404/2011-201-05) identified during a previous NRC inspection associated with the design and qualification testing of systems and components being supplied as part of the AP1000 reactor design. The vendor inspection activities were documented in Inspection Report (IR) 99900404/2016-203 (Agencywide Document Access and Management System (ADAMS) Accession No. ML16173A282).

   The lead for this inspection is Mr. Jeffrey Jacobson, who can be reached by phone at 301-415-2977 or via electronic mail at Jeffrey.Jacobson@nrc.gov.

   b. Findings and Observations

   b1. Affected ITAAC Numbers: 2.2.03.02a (159), 2.2.03.02b (160), 2.2.03.08c.i.04 (180)

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
2.a) The components identified in Table 2.2.3-1 as ASME Code Section III are designed and constructed in accordance with ASME Code Section III requirements	Inspection will be conducted of the as-built components as documented in the ASME design reports.	The ASME Code Section III design reports exist for the as-built components identified in Table 2.2.3-1 as ASME Code Section III.
2.b) The piping identified in Table 2.2.3-2 as ASME Code Section III is designed and constructed in accordance with ASME Code Section III requirements.	Inspection will be conducted of the as-built piping as documented in the ASME design reports.	The ASME Code Section III design reports exist for the as-built piping identified in Table 2.2.3-2 as ASME Code Section III.

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
8.c) The PXS provides RCS makeup, boration, and safety injection during design basis events.	i) A low-pressure injection test and analysis for each CMT, each accumulator, each IRWST injection line, and each containment recirculation line will be conducted. Each test is initiated by opening isolation valve(s) in the line being tested. Test fixtures may be used to simulate squib valves.	i) The injection line flow resistance from each source is as follows: 4. Containment Recirculation: The calculated flow resistance for each containment recirculation line between the containment and the reactor vessel is: Line A: ≤ 1.11 x 10-5 ft/gpm2 and Line B: ≤ 1.04 x 10-5 ft/gpm2

IR 99900404/2016-203 did not close the two previously identified inspection findings associated with inspections, tests, analyses, and acceptance criteria (ITAAC) 2.2.03.02a (159), 2.2.03.02b (160), 2.2.03.08c.i.04 (180).

IR 99900404/2016-203 states:

NRC Inspection Report No. 99900404/2012-202 (dated November 9, 2012) documented the review by NRC inspectors of WEC corrective actions in response to NRC Open Item 99900404/2011-201-05. In that report, the NRC inspectors concluded that WEC had obtained information from the check valve vendor that was used to conservatively bound flow resistance for partially open check valves in the IRWST Injection line. The inspectors concluded that WEC had resolved an issue regarding use of incorrect check valve flow resistance in safety-related analyses. However, the inspectors concluded that the WEC design specifications did not meet ITAAC Table 2.2.3-4, Item 8.c, because the ITAAC states that the IRWST injection check valves must be fully open during the ITAAC test, but these check valves will not be fully open during IRWST injection flow. The inspectors also concluded that WEC had not provided evidence that acceptance criteria for extended operation of the IRWST and other PXS check valves in their partially open positions had been included in the design requirements. The inspectors determined that WEC needed to incorporate these low flow conditions into the specifications for the check valves, and that the qualification program needed to ensure that these valves can operate reliably under extended low flow conditions. In NRC Inspection Report No. 99900404/2012-202, the inspectors concluded that Open Items 99900404/2011-201-02 and 99900404/2011-201-05 would remain open pending (1) submittal of a license amendment to resolve the ITAAC discrepancy, and (2) an update of the check valve qualification requirements.

The NRC inspection team determined that WEC took corrective actions to the two previously identified issues, but these corrective actions involved modifications to the design that are departures from the approved AP1000 Final Safety Analysis Report. Consequently, these modifications will require the licensees of the Vogtle and Summer plants to submit License Amendment Requests (LARs) to the NRC staff for review and approval. Since, at the time of this inspection, these LARs had not yet been submitted to the NRC staff, the findings will remain open.

2. Westinghouse (ITAAC-Finding Closure)

a. Inspection Scope

During the week of July 18-22, 2016, the NRC staff conducted an inspection at the Westinghouse Electric Company (WEC) facility in Warrendale, PA. The purpose of the inspection was to verify the implementation of Westinghouse's (WEC's) QA program activities associated with the design, implementation, and testing of the Protection and Safety Monitoring System (PMS) systems for the Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3 currently under construction. The vendor inspection activities were documented in IR 99900404/2016-202 (ADAMS Accession No. ML16237A320).

The lead for this inspection is Mr. Greg Galletti, who can be reached by phone at 301-415-1831 or via electronic mail at Greg.Galletti@nrc.gov.

b. Findings and Observations

b1. Affected ITAAC Number: 2.5.02.03 (525)

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The Class 1E equipment identified in Table 2.5.2-1, has electrical surge withstand capability (SWC), and can withstand the electromagnetic interference (EMI), radio frequency interference (RFI), and electrostatic discharge (ESD) conditions that would exist before, during, and following a design basis accident without loss of function for the time required to perform the safety function.	Type tests, analyses, or a combination of type tests and analyses will be performed on the equipment	A report exists and concludes that the Class 1E equipment identified in Table 2.5.2-1 can withstand the SWC, EMI, RFI, and ESD conditions that would exist before, during, and following a design basis accident without loss of safety function for the time required to perform the safety function

IR 99900404/2016-202 closes out inspection finding Nonconformances (NON) 99900404/2015-204-02 and 99900404/2015-204-03 associated with ITAAC 2.5.02.03 (525).

IR 99900404/2016-202 states:

During this inspection, the NRC staff evaluated aspects of WEC's design and testing of the PMS, review of corrective action (CA) implementation for previous NRC-identified nonconformances associated with the PMS system. These activities were associated with inspections, tests, analyses, and acceptance criteria (ITAAC) from Appendix C from the Combined License for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3. Specifically, these activities were associated with ITAACs 2.5.02.03 and 2.5.02.11.

With respect to the previously identified non-conformances, the NRC inspectors reviewed implementation of CAs associated with two findings that are material to the ITAAC acceptance criteria and determined those actions were sufficient to close those findings. The CAs were specific to ITAAC 2.5.02.03 that identified a failure to demonstrate that PMS equipment can withstand electromagnetic interference, radio frequency interference, and electrostatic discharge conditions that would exist before, during, and following a design basis accident without loss of safety function.

The NRC reviewed WEC's response to NONs 99900404/2015-204-02 and 99900404/2015-204-03, and verified that WEC adequately implemented corrective actions to address the findings. It did not identified any deficiencies. These two NONs were associated with ITAAC 2.5.02.03 (525).

3. Westinghouse (ITAAC-Finding Closure)

a. Inspection Scope

During the week of October 26-30, 2015, the NRC staff conducted an inspection at the Westinghouse Electric Company (WEC) facility in Warrendale, PA. This inspection evaluated aspects of WEC's programs for the design, implementation, and testing of the Component Interface Module (CIM), a sub-system within the Protection and Safety Monitoring System (PMS) systems for the Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3 currently under construction. The vendor inspection activities were documented in IR 99900404/2016-201 (ADAMS Accession No. ML15363A360).

The lead for this inspection is Mr. Greg Galletti, who can be reached by phone at 301-415-1831 or via electronic mail at Greg.Galletti@nrc.gov.

b. Findings and Observations

b1. Affected ITAAC Numbers: 2.5.02.14 (553)

Design Commitment	Inspections, Tests, Analysis	Acceptance Criteria
The Component Interface Module (CIM) is developed using a planned design process which provides for specific design documentation and reviews.	An inspection and or an audit will be performed of the processes used to design the hardware, development software, qualification and testing.	A report exists and concludes that CIM meets the below listed life cycle stages. Life cycle stages: a. Design requirements phase, may be referred to as conceptual or project definition phase

IR 99900404/2016-201 closes out inspection finding NON 99900404/2014-201-01 and 99900404/2014-201-02 associated with ITAAC 2.5.02.14 (553).

IR 99900404/2016-201 states:

The inspectors reviewed policies, procedures, work instructions, and interviewed vendor personnel responsible for the identification and implementation of Corrective Actions (CAs) associated with two previous notices of nonconformance (NONs) identified in NRC inspection number 99900404/2014-201. These NONs were: (1) WEC did not apply appropriate design control measures to correctly translate applicable regulatory requirements and the design basis into specifications, drawings, procedures, and instructions. (2) WEC did not apply appropriate design control measures to verify the adequacy of design associated with the performance of safety analyses, system requirements review, and concept documentation evaluation.

The inspectors confirmed that WEC had adequately identified and implemented CAs, including revisions to WEC policies, procedures, work instructions, reports, tests, as well as re-performance of CIM-SRNC lifecycle activities consistent with those CAs. No findings of significance were identified. The inspectors concluded that WEC's implementation of their policy and procedures associated with CAs in response to two NONs identified in NRC IR 99900404/2014201 satisfy the regulatory requirements set forth in Criterion XVI, "Corrective Actions," of Appendix B to 10 CFR Part 50.

These two NONs were associated with ITAAC 2.5.02.14 are now closed.

4. List of Items Opened/Closed, and Applicable ITAAC since issuance of last ITAAC Summary Letter

Item Number	Status	Type	Applicable Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) from License Nos. NFP-91, NFP-92, NFP-93, and NFP-94
99900404/2011-201-02	Remain Open	NON	2.2.03.02a (159), 2.2.03.02b (160)
99900404/2011-201-05	Remain Open	NON	2.2.03.08c.i.04 (180)
99900404/2015-204-02	Closed	NON	2.5.02.03 (525)
99900404/2015-204-03	Closed	NON	
99900404/2014-201-01	Closed	NON	2.5.02.14 (553)
99900404/2014-201-02	Closed	NON	